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# GEOGRAPHIC SCHOOL BULLETINS

*Published Weekly by*

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated as a non-commercial institution for the increase of geographic knowledge and its popular diffusion. General Headquarters, Washington, D. C.)

October 23, 1944. Vol. XXIII. No. 4.

1. Germany's Weather Not "Made in Germany"
2. Mindanao, a Southern Outpost of the Philippines
3. War Rolls into High on Ball Bearings
4. The Peloponnesus, Rocky Fortress Peninsula of Southern Greece
5. Historic Rivers Make New History: Rhine—Danube

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This dignified elderly mountaineer, photographed before the war, wore *fustanella* and braided bolero beneath his overcoat and brought his umbrella on his trip down the mountains to the market town of Kalávryta in the Peloponnesus. The bootblack, more citified, wore a suit. The mountaineer's double-duty umbrella can keep off rain or help in the homeward climb up mountain trails.

In the next valley east of the town of Kalávryta flows the River Styx, where, according to ancient Greeks, Charon ferried the dead across to the nether world of ghosts. The Peloponnesus was the first part of mainland Greece to be liberated (Bulletin No. 4).

*B. Anthony Stewart*

UMI

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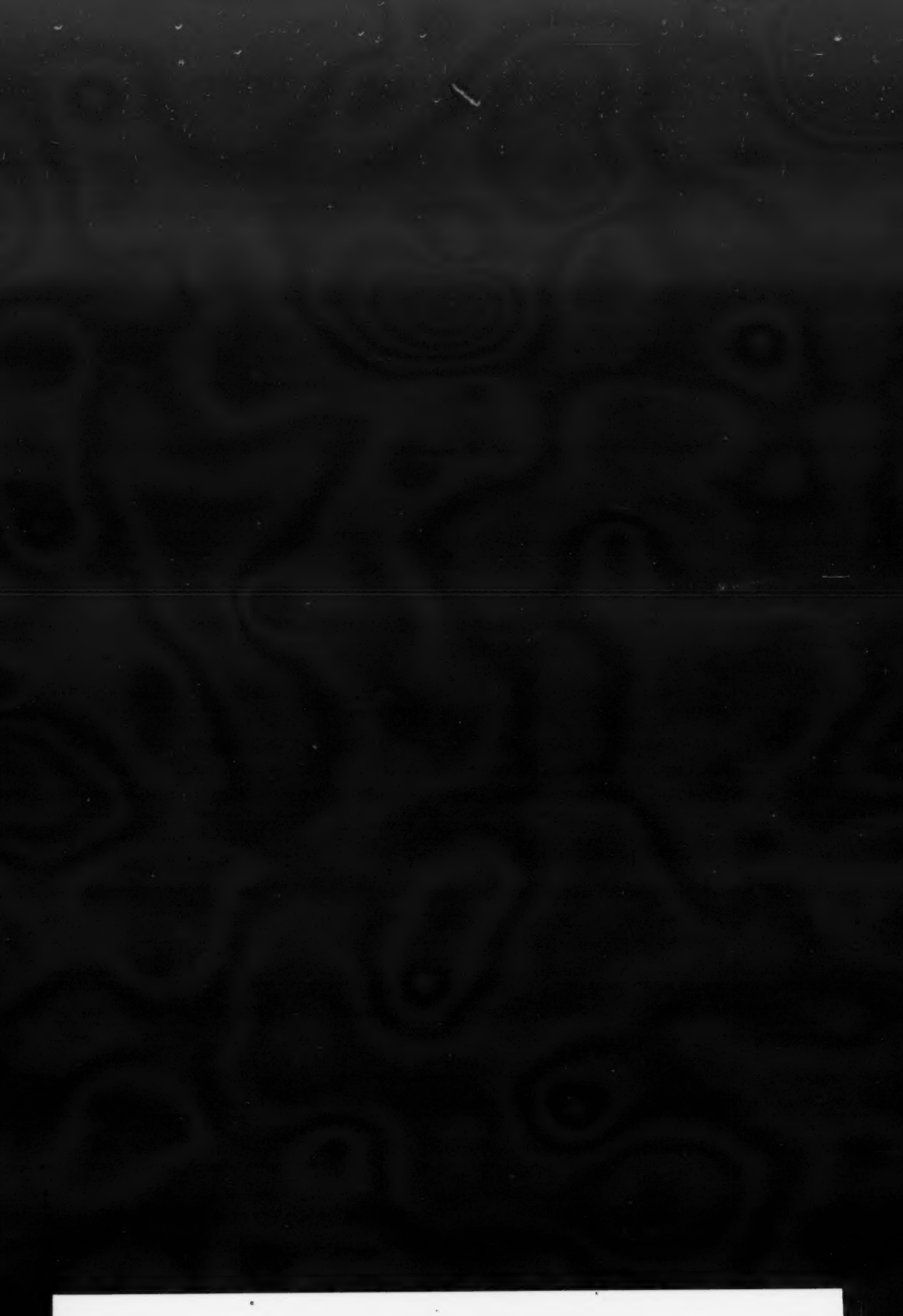

# GEOGRAPHIC SCHOOL BULLETIN

**HOW TEACHERS MAY OBTAIN THE BULLETINS**

**The Geographic School Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers in the United States and its possessions for one year upon receipt of 25 cents (stamps or money order); in Canada, 50 cents. Originally entered as second-class matter January 27, 1922; re-entered as of April 27, 1943, Post Office, Washington, D. C., under Act of March 3, 1879.** **Copyright, 1944, by National Geographic Society, Washington, D. C. International copyright secured. All rights reserved. Quedan reservados todos los derechos.**

## Germany's Weather Not "Made in Germany"

"WHAT? Winter already?" is the surprised reaction of home folks who hear in October of the cold weather engulfing their fighting relatives in Europe. But winter it seemed indeed to the Allied soldiers closing in on Germany, waiting to have overcoats and winter uniforms delivered to the front lines by bomber. The October cold in Europe has hinted at difficulties which the weather may be piling up as obstructions to the advance of the Allies into Germany.

Just what does the weather man have in store for the western front? "Continued cold, with the likelihood of rain" is a possible forecast.

### Rainfall Usually Heavy in October

October in western Germany is the year's second-wettest month. June is usually the rainiest, February the driest.

In western Germany between the Rhine and the frontier, where the Eifel Hills merge into the heights of Luxembourg and Belgium's Ardennes highlands, the yearly rainfall totals about 34 inches. Gauges in the plains of northern Germany show 30 to 32 inches a year.

Figures regarded as typical for most of the country beyond the Siegfried Line put September rainfall at 1.81 inches, October level at 2.26 inches, and the November quota at 1.94 inches.

Clouds and overcast have hampered air operations often enough over Germany during the past summer, but summer is the least cloudy of the seasons over the Reich. Already sunny days and clear nights have grown rarer.

### Allies Get Preview of German Weather

An important geographic condition that aids the Allies is the fact that much of Germany's weather is not "made in Germany" at all, but imported from behind Allied lines, both from the east and from the west. This gives the Allies an opportunity to preview the weather as it goes by.

In large part, weather conditions in Germany are ruled by winds blowing eastward across the North Atlantic. Weather stations in the northern United States, Greenland, Iceland, Britain, and France send in reports on a storm as it blows by, and by the time it blusters over Germany the Allies have a complete biography of its tempestuous career, even with a prediction of its probable duration. In addition to reports from weather stations on the ground, the Allies can sample the weather at all levels by reports from their aircraft. Occasionally a bomber is sent westward from British bases to meet the weather halfway, and make observations at high altitudes over the North Atlantic.

For information on which to base forecasts, the Germans have had to look to their dwindling number of submarines for reports.

Temperature and rainfall in the Reich take their cue from geography. The lowlands of Germany's northwest offer no barrier to the relatively moist, seatempered winds blowing in from the North Atlantic, so that the "imported" weather conditions already well studied by the Allies usually penetrate far inland over the Reich, especially in the summer.

Thermometer readings in the northern part of the Rhine basin through the summer average about 60 to 62 degrees Fahrenheit; in the southern reaches, about 66 degrees.



UMI

*U. S. Navy*

**SEVEN TIMES NEW YORK'S THOUSAND ISLANDS MAKE UP THE PHILIPPINES, SCATTERED NORTHWARD FROM MINDANAO**

**Ranging from pint-size dots of land to sizable islands supporting villages (foreground), assorted samples of the Philippines' 7,000 islands cluster off Mindanao's Bilaa Point, the northernmost tip of the southernmost island of the group. At this end of Mindanao the waters of Hinatuan Passage—separating the giant island from its northern neighbor, Dinagat—meet the currents of the Surigao Strait which leads the Mindanao Sea out into the Pacific. In the town on the point, streets run in neat parallel rows from the shore up the hill slopes, and flat white roofs are landmarks among the trees. The bulk of the island stretches between bomb-battered Davao to the south and this little tropical village. Such air views of the Philippines are becoming familiar to American flyers (Bulletin No. 2).**

# GEOGRAPHIC SCHOOL BULLETIN

*Published Weekly by*

THE NATIONAL GEOGRAPHIC SOCIETY

**(Founded in 1888 for the Increase and Diffusion of Geographic Knowledge)**

**General Headquarters, Washington, D. C.**


## Mindanao, a Southern Outpost of the Philippines

MINDANAO, land of the Moros, is the southernmost of the Philippine Islands and therefore the nearest of that island group to United States forces in New Guinea, Palau, and Morotai.

Mindanao looms in Pacific strategy as a convenient base for liberation of the other Jap-held Philippines and for drives against Japan, 1,500 miles north. Davao, chief port of Mindanao and long a Jap stronghold, has been bombed repeatedly.

### Ins and Outs Make Scalloped Shore Line

Mindanao is second in size to Luzon, largest of the 7,083 islands in the group. With an area of 36,537 square miles, Mindanao rivals Indiana in size. Bays and gulfs bite into the coast; mountains roughen the land surface (illustration, inside cover). The tallest peaks rise well over 9,000 feet.

There are fertile valleys and extensive forests. Mindanao has numerous short rivers and two long ones. The Agusan River rises near Mt. Kampalili, in the southeastern scallop of the island, and flows north into Mindanao Sea. The Pulangi—longest river in the Philippines—has its source in northern Mindanao and flows in a general southwesterly direction. About 20 miles from its mouth the river splits into two branches, and flows through a delta into Illana Bay. This lower stretch of the river, from the Liguasan Marsh to Illana Bay, is known as the Rio Grande de Mindanao.

Life on Mindanao conforms to a typical South Seas pattern. Monkeys chatter in the coconut palms. Temperatures reach 100 degrees Fahrenheit and drop to about 57 degrees. Rainfall is abundant the year round.

### Japs Entrenched Themselves in the Abacá Industry

Americans 45 years ago learned of Mindanao through stirring tales of fighting between its fanatic Moros and U. S. soldiers. In addition to fighting stubbornly the Moros sometimes run amuck among civilians. They fought the Spaniards, and fought Americans when the United States assumed control.

To the world in general Mindanao has been important for its Manila fiber, the material popularly—and mistakenly—called hemp. This tough fiber of the abacá plant makes the strongest and best of all ropes, as any sailor knows. It is also woven into cloth (illustration, next page). For some reason of soil or climate, or economics, abacá grows more abundantly in the Philippines than anywhere else, and most of it has been grown on Mindanao.

To guard their monopoly of this plant, Philippine authorities 20 years ago outlawed its export. Before the embargo it had been taken to Borneo, to the Netherlands Indies, and to Panama. But the bulk of the world's prewar Manila fiber supply continued to come from Mindanao. Since Japanese capture cut off the source, plantations in Central America have come into production.

Years ago, Japanese settled around Davao and, by marrying native women, managed to evade anti-alien land laws and take control of many abacá plantations. At the outbreak of this war some 18,000 Japanese were growing large crops of abacá. They had almost complete control of the Manila fiber industry.

Influence of the Jap was notable in Davao. They brought in Japanese-made goods for Davao's Jap-managed shops, shipped to Japan abacá, coconut oil, and dried fish. Tea houses, schools, clothing, speech, all had the Jap imprint.



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As autumn merges into winter, occasional chill east winds from Russia dispute the sway of the milder sea breezes from the Atlantic, bringing clouds, cold, snow, and shivers. From an average of about 58 degrees for September and 50 degrees for October, the temperature moves downward to around 35 degrees in January—a fall of 31 degrees from the mean for July.

In winter the Rhine usually freezes over. At Cologne it is icebound for 21 days or more.

While the approach of winter brings many disadvantages to the attackers of Germany, it offers one compensation. It brings longer nights, a fact which permits longer flights by attacking bombers during nature's blackout. Around the latitude of Mainz on the middle Rhine, October 21 has little more than ten hours of daylight, more than 13½ hours of darkness. A month later the night will be lasting more than 15 hours.

Note: For additional information on the part that weather plays in war, see "Weather Fights and Works for Man," in the *National Geographic Magazine* for December, 1943.

See also these GEOGRAPHIC SCHOOL BULLETINS: "Italy Is 'Surprise Stocking' of Varied Weather Samples," March 13, 1944; and "Rain Hampers Both Sides in New Guinea Battles," November 16, 1942.

**Bulletin No. 1, October 23, 1944.**

*Max Wentz*

**MUCH OF GERMANY'S "SUNNY" SOUTH IS AS COLD AS THE NORTH**

**Since northern Germany is fairly flat, there are no obstacles to break the moderating effect of winds from the North Atlantic, which are not so cold as the icy gales from Russia. Though regions to the south would normally be warmer, in Germany they are higher in altitude; therefore the southern mountains are as cold as the northern plains. The middle Rhine valley is the most weather-protected and the least chilly region of Germany, shielded by the Vosges Mountains on the west and the Black Forest on the east. But the Saar district, to the west, in the border highlands between France and Germany, is chilled by altitude to a grim wintriness. Threatening clouds and heavy snow, like these enveloping a Saar coal mine, are to be expected.**

fore the war, after their first ride in an airplane.


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General Headquarters, Washington, D. C.


## War Rolls into High on Ball Bearings

TODAY'S opposing armed forces have been rolling into combat on ball bearings, whether on land, or sea, or in the air.

That is why raids on enemy ball bearing factories have had a No. 1 bombing priority. It is why inducing neutrals to stop furnishing such bearings to the Nazis has been a primary diplomatic aim. And it is why keeping manpower at full strength in United States bearing factories has been an important home problem. Cutting off the supply of "magic marbles" from their flow into the enemy's machines and weapons is about as effective as destroying his highways and grounding his airplanes.

Ever since man invented the wheel ages ago, he has waged a never-ending fight against power-wasting friction in a "bearing," that part of a mechanism in which one section moves against or revolves within another. His early problems can be understood by anyone who has heard a cart, in some out-of-the-way region of the world, screeching its way along as wooden hub turns on wooden axle. The first forward step was to set metal-lined hubs turning on metal-lined axles, helped by grease. Such an arrangement was used by the Egyptians, the Greeks, and other ancient peoples in their best chariots.

### History-Making Invention Followed French Revolution

Smoother metal and better lubrication represented about the only bearing developments for the next 2,000 years. Then, after the French Revolution, came a gigantic stride forward—the basic idea of anti-friction bearings in which wheels turn on other wheels. The first fruits of the idea were roller bearings for artillery axles in 1795, and the first ball bearings for machinery in general, in 1802. Both were invented by Frenchmen. Since then, nothing fundamental has been added to produce the extremely efficient ball and roller bearings of today; only improvements have been made in materials, in manufacture, and in the mounting and "caging" of the rolling spheres and cylinders.

The great value of ball bearings in the Machine Age is that they do away with the rubbing and dragging of simple bearings and thus reduce friction practically to the vanishing point. Bicycles were the first vehicles to make general use of ball bearings. Then came the automobile, and demand for the steel spheres was multiplied hundreds of times. During the last three decades ball bearings and their sturdier brothers, roller bearings, have been put to use in nearly all of the millions of modern devices that have moving parts.

But it is this latest and greatest of wars that has demanded steel rollers by the millions and steel balls by the billions to keep its mechanized vehicles and weapons in motion.

### Even Delicate Bombsight Has Ball Bearings

To get some idea of how military needs are gobbling up anti-friction bearings, consider a heavy bomber. Each of its engines requires 38 or more ball bearings. Each bearing is made up of many balls, depending on the size of the spheres and the size of the shaft that rotates in the ring of balls. Other ball-bearing assemblies are used in propellers, landing gear, rotating turrets, gun mountings, electric generators, superchargers, flight controls, and bomb releases.

Each bombsight is equipped with 61 different bearings. Some are made of tiny steel balls smaller than a pinhead; others are needle bearings made of little cylinders the size of fine needles.

Every one of the myriads of jeeps that roll off the assembly line takes with it 26 roller bearings. Every military truck requires three times as many bearings as a civilian truck. Roller and ball bearings are vital parts of tanks: 86 bearings in light tanks, 120 in the mediums. Anti-aircraft guns, gun directors, searchlights, and plane-detecting apparatus require rollers and balls by the thousands for their movable parts.

The Navy has need for ball bearings in hundreds of mechanisms on its vessels from the great battle wagons and LSTs (illustration, next page) down to the dashing little PT boats.

The mass production of perfect steel balls ranging from one-half millimeter to four and five inches is one of the triumphs of the modern machine tool. The making of the balls begins with the making of the steel. It must be fortified with just the right proportion of carbon, chrome, and manganese—a steel that is hard yet not easily crushed, tough and elastic yet not to be mashed out of shape. For the scientifically rounded shoulders of the completed balls must be able to bear heavy burdens continually.

Balls up to one inch in diameter—and this covers the overwhelming majority of those



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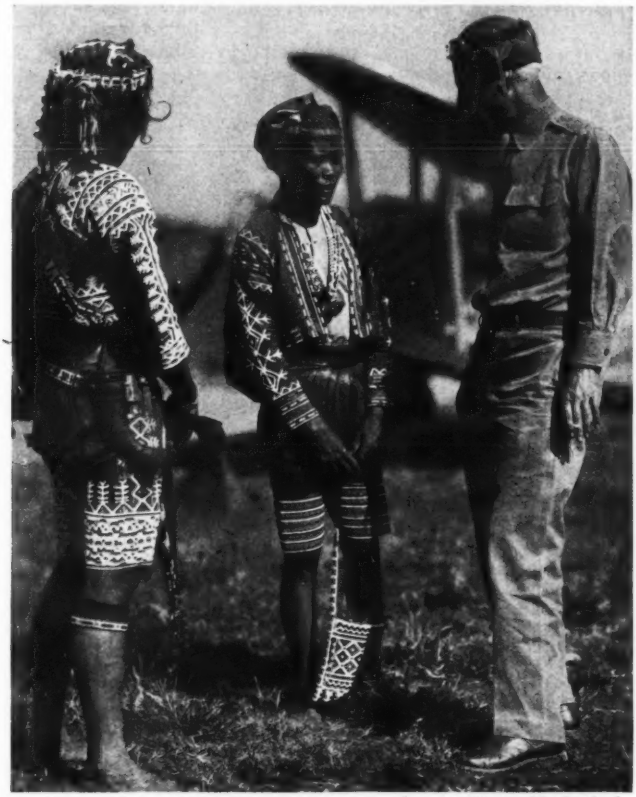
Zamboanga, on Mindanao's southwestern tip, outranked Davao (103,000) in size with a total of 137,700 residents, but was less important as a port.

Because parts of Luzon and Cebu were overcrowded, the Philippine Government aided migration to thinly populated Mindanao. Good roads were built to make farming areas accessible. War interrupted the resettlement project. The biggest obstacle to progress in Mindanao was the Moros. These firm Mohammedans (about a fourth of all the island's population) looked with sullen eyes on newcomers. They claimed much of the land as the American Plains Indians had claimed their buffalo lands, by right of tribal heritage rather than legal title.

Note: Mindanao and the Philippines are shown on the Society's Map of Southeast Asia, which is a supplement to the *National Geographic Magazine* for October, 1944. A price list of maps may be had from the National Geographic Society's headquarters in Washington, D. C.

See also "Facts about the Philippines," in the *National Geographic Magazine* for February, 1942*; "Return to Manila," October, 1940*. *(Issues marked with an asterisk are included in a special list of Magazines available to teachers at 10¢ each in groups of ten.)*

**Bulletin No. 2, October 23, 1944.**



*George W. Goddard*

**BAGOBOS MAKE ODD NOTES IN MINDANAO'S RACE MEDLEY**

**While many of the pagan tribes of the Philippines wear costumes that are notable for their scantiness, the Bagobos of Mindanao have an elaborate outfit of short trousers and bolero jackets, made of stiff, durable cloth woven from the abacá fiber which is commercially valuable as the "hemp" rope fiber. They ornament the cloth with patterns of beading, rather like those of North American Indians. The Bagobo on the left carries the large curved knife which is a traditional weapon in the Philippines. These ornately dressed Bagobos were photographed before the war, after their first ride in an airplane.**

Australian troops in New Guinea at Lae.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## The Peloponnesus, Rocky Fortress Peninsula of Southern Greece

THE Peloponnesus Peninsula, where British troops landed to begin their liberation of mainland Greece, is practically an island. For all practical purposes it is severed from the rest of the mainland by the narrow gash of the 4-mile-long Corinth Canal, which cuts straight through the narrow isthmus linking the Peloponnesus on the northeast with the bulk of Greece.

A little larger than Massachusetts, the Peloponnesus is about 8,350 square miles in area. It accounts for about one-sixth of the entire land area of Greece, counting the nation's numerous islands. It had a prewar population of somewhat over a million inhabitants (illustration, cover).

### Pátras is Capital and Chief Port

An oddly shaped land mass, resembling on the map some giant sea monster, the Peloponnesus is a great lump of mountains from which four ridges fray out, forming four stubby peninsulas. Three point their fingers southward into the Mediterranean; the fourth reaches toward the southeast.

The Gulf of Pátras (Kólpos Patrŏn) and the adjoining Gulf of Corinth to the east (Kólpos Korinthiakos) form a continuous strip of water that separates the Peloponnesus Peninsula from the mainland to the north. At the eastern end of the Gulf of Corinth, the Corinth Canal slices through to the Aegean Sea. The chief Greek city, ancient Athens, and its port, the Peiraievs (Piraeus), are about 30 miles northeast of the Peloponnesus across the Gulf of Aegina.

On the north shore of the Peloponnesus stand Pátras (Pátrai), capital of the region and third-busiest port of peacetime Greece, and Corinth (Korinthos), the historic port whose name now applies to the type of raisin it once shipped in such quantities, the currant. Pátras before the war was the principal center of currant shipment, and a city of some 61,000 people (illustration, next page).

### Home of Hercules, Spartans, and Olympic Games

The Peloponnesus is roughly encircled by a railroad line, which crosses the Corinth Canal on a high bridge on the way to Athens.

Greece's historic southern peninsula consists largely of hills and mountains, which slope down to a fairly broad coastal plain in the west. In places, especially in the south and east, the mountains come all the way down to the sea. In the north-central part, south and east of Pátras, there are peaks that reach heights between 7,000 and 8,000 feet.

Except on the coastal plain of the west, there is little land well suited for agriculture. The chief crop of the Peloponnesus has been, therefore, the hardy, sweet grape whose vines grow on the mountain slopes. Four pounds of grapes are sun-dried to make a pound of the seedless raisins which have come to be known as currants. Figs are grown in the south. Some oranges, olives, and cotton also are produced in the Peloponnesus.

This rugged mountain land has bred a rugged people, famous throughout history for their physical achievements. This is the region that is supposed to have toughened the legendary muscles of Hercules. On the Peloponnesus the Olympic Games developed the tradition which was still alive until the present war broke out. The warriors of Sparta, in the southeastern part of the peninsula, won fame for relentless fighting and uncomplaining endurance. Among the characters contrib-




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manufactured—are cold pressed. The steel in the form of wire or rods is cut into short chunks or slugs. These go to powerful presses in which hollowed-out half spheres face each other. The steel squeezed in these hollows is pressed into a rough sphere with a thin flange or "flash" pushed outward at its equator. The first grinding machine removes this flash.

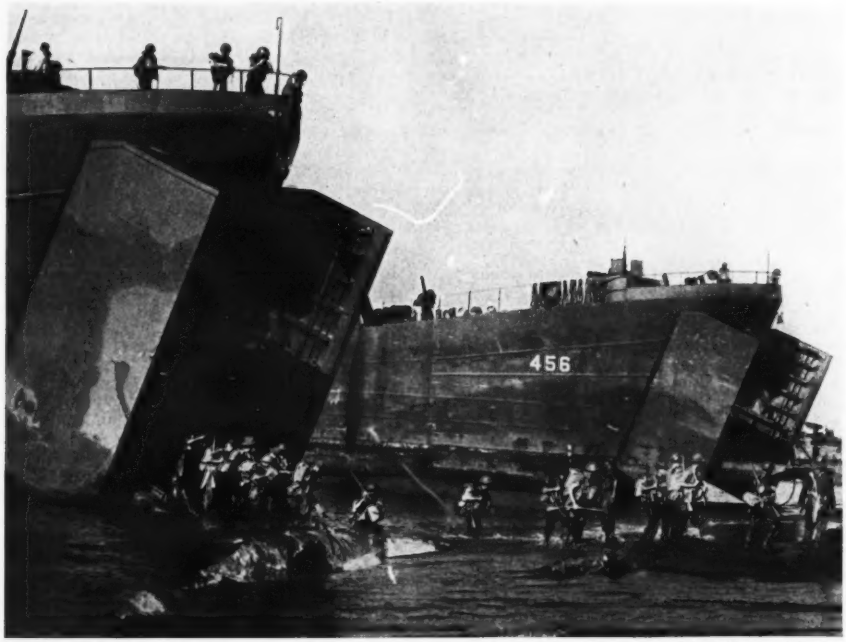
## Ball Bearings Must Be Handled with Gloves

From then on the shaping of the spheres is a matter of grinding and polishing off thin layers of metal until the balls reach their proper size and are perfectly round. Some of this grinding is between rotating horizontal disks, some in "groove grinders." In one operation the balls are tumbled in barrellike containers in a special liquid; for balls of some sizes, this process goes on for 40 hours. Then they are heat-treated, quenched, and tempered before getting their final precision grinding and polishing. The polishing alone may require 20 hours. To complete a batch of 4,000 ¾-inch balls takes 11½ working days. One-eighth-inch balls, made in batches of 600,000, take 36 days. The completed balls must be handled with gloves lest perspiration corrode their mirror-like surfaces.

The balls are only one of the ingredients of a modern ball bearing. They are slipped between movable outer and inner steel rings on the polished curved surfaces of which they roll. Between the rings, a "cage" keeps the balls from rubbing against each other.

Note: For information on weapons, equipment, and war industries helping the United Nations to victory—in which ball bearings play a vital role—see "Landing Craft for Invasion," in the *National Geographic Magazine* for July, 1944; "The Miracle of War Production," December, 1942; and "As 2,000 Ships Are Born," May, 1942*. The *Magazine* for December, 1942, has a series of 16 paintings in full color, by Thornton Oakley, called "American Industries Geared for War."

**Bulletin No. 3, October 23, 1944.**




*U. S. Navy, Official*

**A BEACHHEAD MAY HINGE ON THE HINGES OF THE LST**

**The LST is a ship large enough to be seagoing but so constructed that it can nose into shallow water, swing open the ponderous doors of its hold, lower its ramp, and immediately disgorge its quota of tanks, ducks, jeeps, or other vehicles, and men in fighting trim. As many as 800 men may be carried by an LST. Since the successful assault of a beachhead may depend on prompt unloading of each LST, hinges of the great doors move on ball bearings and swing smoothly open without a hitch at the crucial instant. Other ball bearings are needed for power plant, pumps, and the ramp that drops into the surf. These LSTs were photographed landing Australian troops in New Guinea at Lae.**

there in normal times, and a railroad links Patras with Athens to the east.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## Historic Rivers Make New History: Rhine—Danube

### *Rhine Assumes Multiple Names as It Frays Out in the Netherlands*

BATTLES in the Netherlands, such as those at Arnhem and Nijmegen, have raged across various streams which all turned out to be the Rhine in disguise. Here is an explanation of the confusing clutter of names assumed by the river as its waters fray out in a number of streams through its broad delta. The Netherlands spelling for the river's historic name is Rijn.

After traversing Germany, for the most part through a hill-rimmed valley, as a river with a single name, the Rhine (Rhein in German) reaches the head of its old delta shortly before it crosses the German border. About 10 miles below Emmerich, Germany, the river branches for the first time. The southern or main stream then takes the name Waal through the Netherlands.

The smaller, northwestern branch flows 9 miles to Arnhem, where it in turn branches. The right-hand arm, flowing northeastward, takes the name IJssel and eventually empties into the IJssel Meer (the old Zuider Zee). The stream branching to the left at Arnhem is known as the Neder Rijn (Lower Rhine) for its first 26 miles, and from there westward as the Lek.

The Waal on the south and the Neder Rijn-Lek on the north cross the Netherlands along roughly parallel routes only a few miles apart to enter the North Sea close to the mouths of the Maas and the Schelde.

The Lek also branches (illustration, next page). One of its distributaries reaches Utrecht as the "Crooked" Rhine, but as it flows west past Leiden and into the North Sea it becomes the Oude Rijn (Old Rhine).

Note: The Rhine delta country is shown on the Society's Map of Germany and Its Approaches, which is a supplement to the July, 1944, issue of the *National Geographic Magazine.* See also "Behind Netherlands Sea Ramparts," in the February, 1940*, issue of the *Magazine.*

* * * *

### *Russians Pry Open the Danube Iron Gate*

WHEN Russian forces pushed across the Danube from Romania into Yugoslavia, on their triumphal way to Belgrade, they crossed the river near its tightest bottleneck, the Iron Gate. This is a gorge about two miles long which the river has cut through the Transylvanian Alps roughly 100 miles east of Belgrade (Beograd), capital of Yugoslavia. In this region the river outlines the Yugoslav-Romanian frontier.

The Iron Gate, sometimes called the Iron Gates, was named long ago by river pilots who found its steep sides, rocky bed, and rushing current about the most dangerous passage on the entire Danube.

Although most of the rocky obstructions were removed by blasting at the close of the 19th century, it still takes a powerfully driven ship to make headway going up the river. There is a tumbling mass of rapids when the water is high, and the current is between seven and eleven miles an hour. At low water, sharp stones leave only a narrow channel.

A special railway with a towing engine, in times of normal traffic, hauled barges through the Iron Gate. Before this equipment was installed, boats had to rely on manpower to tow them through the gorge.

For centuries the Iron Gate has been a sort of dividing point in Danube geog-



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uted to myth, legend, and history by the Peloponnesus are Perseus and Andromeda, Theseus, and the Dioscuri.

Note: The Peloponnesus is shown on the National Geographic Society's Map of Classical Lands of the Mediterranean, on which historic events are noted.

The Society has prepared a special book on Greece, containing reprints of three articles, two sets of natural color photographs, and a series of paintings originally published in issues of the *National Geographic Magazine* for March and May, 1944. This includes the 32 reproductions in full color of paintings of life in ancient Greece, by H. M. Herget, with detailed descriptive notes to accompany each picture. The articles are "The Isles of Greece," "The Greek Way," and "Greece—the Birthplace of Science and Free Speech." This book, bound in heavy cream paper, is entitled "Classic Greece and the Aegean." It is available at 75¢ a copy from the Society's headquarters, Washington 6, D. C.

See also, "Modern Odyssey in Classic Lands," and two sets of natural color photographs, "Today's Evidence of Grecian Glory," and "Santorin and Mýkonos, Aegean Gems," in the *Magazine* for March, 1940*; and "Ageless Luster of Greece and Rhodes," 16 illustrations in duotone by Arnold Genthe, April, 1938*.

**Bulletin No. 4, October 23, 1944.**

*Maynard Owen Williams*

**PÁTRAS, PORTAL OF LIBERATION, IS A CURRANT PORT**

**The first important Greek city to be freed by British invaders was Pátras, capital of the Peloponnesus and fourth-largest city of Greece. This ancient port was prominent in the days of the Roman Empire. The main street is named Hagios Nikólaos, after the same genial St. Nicholas who tries to make Christmas merry for American children. The currants which owe their name to Corinth are normally the chief export of this port at the entrance to the Gulf of Corinth. They were originally known as "raisins of Corinth." In Pátras' hinterland of the mountainous Peloponnesus, where so little land is suitable for agriculture, hardy vineyards yield the currant grapes which are the leading commercial crop. Small boats and sailing vessels, bringing currants and wine to Pátras for transshipment, crowd the harbor. Steamers also stop there in normal times, and a railroad links Pátras with Athens to the east.**

raphy and navigation. The Greek geographer Strabo divided the river into two sections—*Danuvius,* above the Iron Gate, and the *Ister* below it.

Just below the gorge are the frontier towns of Turnu-Severin on the Romanian bank and Kladovo on the Yugoslav side.

West of the Iron Gate is the island of Ada Kaleh, the "Forgotten Island" of 1878. When Romania achieved independence from Turkey in that year, this island was forgotten by boundary makers and it remained a relic of the Turkish Empire until 1918. Its residents speak Turkish, sip Turkish coffee, and follow Moslem customs. The ruins of a fortress are remnants of a Turkish effort to dominate the Iron Gate.

Note: The Iron Gate may be found on the Society's Map of Europe and the Near East. For further information on the Iron Gate, the Danube River, and the people who live along its course, see "The Danube, Highway of Races," in the *National Geographic Magazine* for December, 1929.

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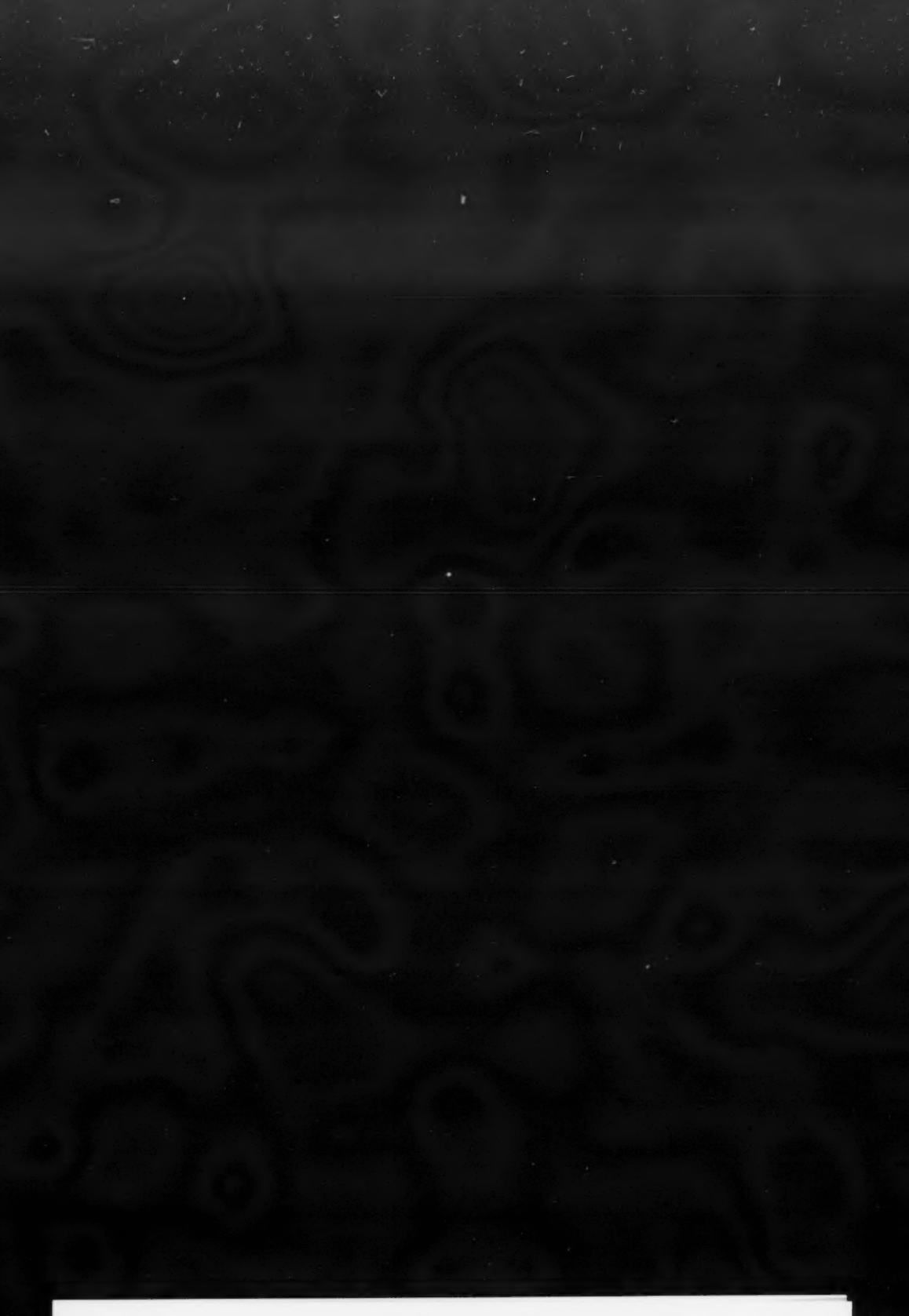
*K.L.M. Royal Dutch Airlines*

**THE RHINE AT ROTTERDAM IS A RIVER OF SPLIT PERSONALITY**

**As the Rhine journeys down from Germany through the Netherlands its name and its personality get lost in a maze of branching distributaries. The branch that reaches Rotterdam has been in turn the Rhine, the Rijn, and Neder Rijn, and the Lek. And here it becomes the Nieuwe Maas (no kin to the Maas River to the south). Companion bridges cross it from the old part of the city, Biennenstad (background) to the modern factory suburb, Freijenoord. Midway they rest on Noordereiland, an island made from mud dredged out when the Koningshaven channel (foreground) was made for a shipping short cut to the sea. To give clearance for ships, the railroad bridge raises its central section elevatorlike between its two towers, and the highway bridge downstream opens its drawbridge.**

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